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**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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*Ex parte* NOBUHIKO OGURA

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Appeal 2008-2454[1]
Application 09/373,585
Technology Center 1600

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DECIDED: June 19, 2008

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Before TONI R. SCHEINER, DEMETRA J. MILLS, and LORA M. GREEN, *Administrative Patent Judges*.

SCHEINER, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 6, 7, and 21-33, all the claims remaining in the application. The claims stand rejected as anticipated by, and obvious over the prior art. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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[1] Heard June 10, 2008.

## BACKGROUND

The present invention is directed to "an apparatus for manufacturing a test piece comprising a strip-like substrate bearing thereon numbers of known specific binding agents which are different from each other and are arranged in a line at predetermined intervals" (Spec. 6: 11-15).

## STATEMENT OF THE CASE

I. Claims 6, 7, 21, 22, 25-29, and 31-33 stand rejected under 35 U.S.C. § 102(e) as anticipated by Stimpson (U.S. Patent 6,037,186, issued March 14, 2000).

II. Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stimpson and Shuminov (U.S. Patent 5,808,554, issued September 15, 1998).

III. Claim 30 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Stimpson, Shuminov, and Biedermann (U.S. Patent 4,881,439, issued November 21, 1989).

Claim 6 is representative, and reads as follows:

6. An apparatus for manufacturing a test piece for use in biological analysis of a sample organism comprising a strip-like substrate bearing thereon numbers of known specific binding agents which are different from each other and are arranged in a line at predetermined intervals in the longitudinal direction of the strip-like substrate, the apparatus comprising:

a plurality of applicators arranged at predetermined interval in a first direction relative to a sheet-like substrate each of said plurality of applicators respectively operable to apply one of the plurality of known specific binding agents on the sheet-like substrate,

a conveyor which conveys the plurality of applicators or the sheet-like substrate relative to each other in a second direction which is substantially perpendicular to the first direction while the applicators apply the plurality

of known specific binding agents in lines which extend in the second direction and are arranged at predetermined intervals in the first direction, and

a cutting means which cuts the sheet-like substrate bearing thereon the plurality of specific binding agents in the first direction into a plurality of strips.

## FINDINGS OF FACT (FF)

*The Invention*

1. The apparatus of claim 6 essentially comprises a plurality of reagent applicators, a conveyor, and a cutting means. The conveyor conveys the applicators or a sheet-like substrate in a direction identified in the claim as a "second direction," while the applicators deposit a plurality of specific binding reagents onto the sheet-like substrate. Because the applicators are arranged at intervals along a "first direction" perpendicular to the second direction, discrete lines of deposited specific binding reagents extend in the second direction - i.e., parallel to each other, and parallel to the direction of conveyance. Finally, the cutting means cuts a plurality of strips from the sheet like substrate in the first direction, i.e., perpendicular to the direction of conveyance.

*Stimpson*

2. Stimpson describes "[a]n automated device to apply . . . [a] multitude of reagents to a 21.5 foot sheet . . . assembled from an X-Y-Z table . . . fitted with a reagent dispenser, a step motor controlled take up spool and an adjustable drag pay-out spool" (Stimpson, col. 8, ll. 32-36). Thus, Stimpson describes an apparatus comprising a plurality of reagent applicators and a conveyor.

3. A sheet of membrane is "mounted on the pay-out spool, fed through guides on the X-Y-Z table surface and attached to the take-up spool. The X-Y-Z table is used to pick up reagents from . . . micro-titer plates using a

dispensing device . . . [and lines are drawn] across the sheet of membrane" (Stimpson, col. 8, ll. 36-41). That is, the lines are drawn on the membrane in a direction perpendicular to the direction of conveyance.

4. A partially assembled roll, showing reagent lines **230**, is depicted in Figure 2C, reproduced immediately below:

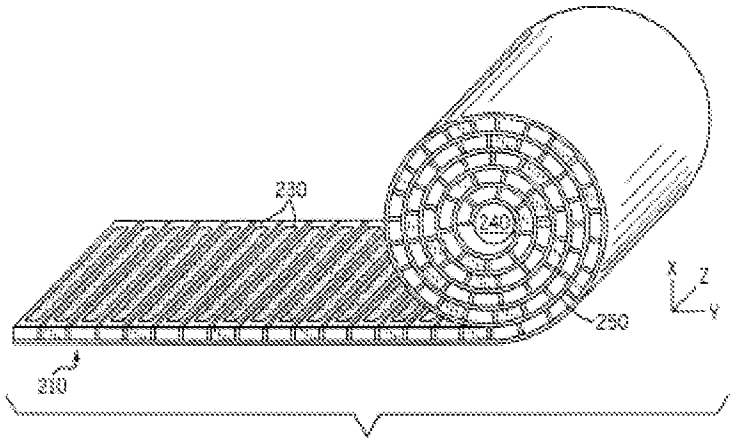


FIG. 2C

Figure 2C "is a schematic view of the process where by the reagent impregnated sheet **200** is rolled about a cylindrical support **240** to form a spiral wound structure of multiple layers" (Stimpson, col. 6, ll. 59-62). The direction of conveyance is along the Y axis, while the lines of reagents lie along the Z axis, i.e., perpendicular to the direction of conveyance.

5. The roll is cut in a direction parallel to the direction of conveyance to form individual spiral shaped arrays, with the impregnated agent exposed on the freshly cut edges of the spirals (Stimpson, col. 5, ll. 9-39), as shown in Figure 2D, reproduced immediately below:

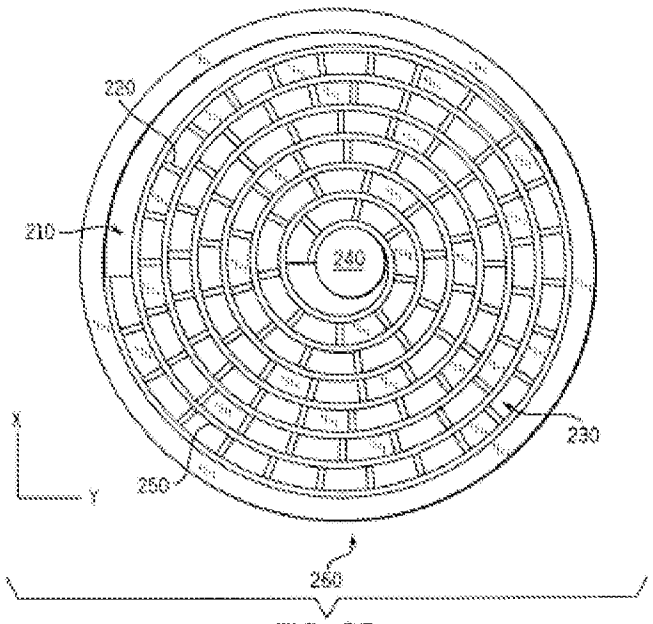


FIG. 2D

Figure 2D "shows an end view of an array cut from the roll of FIG. 2C after rolling is complete and the structure is bound with a sheath **260**. The array is a spiral structure of multiple layers of sheet material **210**" (Stimpson, col. 6, ll. 64-67).

6. Thus, Stimpson's reagent dispenser lays down discrete lines of reagents across the sheet of membrane, i.e., perpendicular to the direction of conveyance, and the Examiner has not pointed to any evidence that establishes that Stimpson's dispenser is capable of laying down reagents in lines parallel to the direction of conveyance. Similarly, Stimpson's cutting means cuts slabs from the assembled books or rods in a direction parallel to the direction of conveyance, and the Examiner has not pointed to any evidence that Stimpson's cutting means is capable of cutting in a direction perpendicular to the direction of conveyance.

## DISCUSSION

*Anticipation*

The Examiner rejected claims 6, 7, 21, 22, 25-29, and 31-33 as anticipated by Stimpson.

Appellant contends that Stimpson's "reagent is applied in a direction perpendicular to a longitudinal direction of the 21.5 foot sheet, as seen in Fig. 2C, and . . . not in lines in the longitudinal direction of the strip-like substrate" and "there is no indication that . . . [Stimpson's] applicators would apply a reagent in the longitudinal direction of the strip-like substrate" (App. Br. 15-16).

Similarly, Appellant argues that "there is no indication that the razor of Stimpson cuts a sheet-like substrate in a first direction into a plurality of strips" (App. Br. 16), i.e., there is no indication that Stimpson's razor can cut in a direction perpendicular to the direction of conveyance.

To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

As discussed above, the claimed apparatus deposits specific binding reagents on a sheet-like substrate in lines parallel to the direction of conveyance, and cuts a plurality of strips from the sheet-like substrate in a direction perpendicular to the direction of conveyance (FF 1). Stimpson's apparatus, on the other hand, deposits specific binding reagents on a sheet-like substrate in lines perpendicular to the direction of conveyance, and cuts a

plurality of spiral arrays from the rolled-up sheet-like substrate in a direction parallel to the direction of conveyance (FF 3, 5).

Thus, the Examiner has not established that the elements of Stimpson's apparatus, i.e., reagent applicators, conveyor, and cutter, are arranged as in the claimed invention, or that Stimpson's apparatus is capable of performing as required by the claims (FF 6). Accordingly, the rejection of claims 6, 7, 21, 22, 25-29, and 31-33 under 35 U.S.C. § 102(e) as anticipated by Stimpson is reversed.

*Obviousness*

The Examiner rejected claims 23 and 24 as unpatentable over Stimpson and Shuminov, and claim 30 as unpatentable over Stimpson, Shuminov and Biedermann.

Stimpson is relied on as in the anticipation rejection of claims 6, 7, 21, 22, 25-29, and 31-33. As discussed above, the Examiner has not established that the elements of Stimpson's apparatus are arranged as in the claimed apparatus, or that Stimpson's apparatus is capable of performing as required by the claims. Neither Shuminov nor Biedermann cures this underlying deficiency.

Accordingly, the rejection of claims 23 and 24, and the rejection of claim 30 as obvious over the prior art are reversed.

SUMMARY

The rejection of claims 6, 7, 21, 22, 25-29, and 31-33 under 35 U.S.C. § 102(e) as anticipated by Stimpson is reversed.

The rejection of claims 23 and 24 under 35 U.S.C. § 103(a) as unpatentable over Stimpson and Shuminov is reversed.

The rejection of claim 30 under 35 U.S.C. § 103(a) as unpatentable over Stimpson, Shuminov, and Biedermann is reversed.

REVERSED

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